

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the above amendments and the following remarks.

Claims 1-10 have been canceled in favor of new claims 11-19. Support for the subject matter of claims 11-19 is provided at least in the original claims.

Claims 1-10 were rejected, under 35 USC §103(a), as being unpatentable over Kouyama (US 6,643,497) in view of Hosonuma et al. (JP 11-251956) and Imagawa (JP 2000-124723). To the extent these rejections may be deemed applicable to new claims 11-19, the Applicants respectfully traverse based on the points set forth below.

Claim 11 recites features of original claims 1 and 2 and defines an antenna matching apparatus that completes adaptive impedance matching on a first antenna element and controls other antenna elements using information corresponding to that used to adaptively impedance match the first antenna element. This feature provides an advantage of allowing one antenna element to be adaptively impedance matched immediately and the other antenna elements to be immediately impedance matched to an approximate extent based on the impedance matching of the first antenna element and later adaptively impedance matched as time permits.

As a result, the entire set of antenna elements may be approximately impedance matched more quickly than a case where all antenna elements are adaptively impedance matched.

It is submitted that the applied references, considered alone or together, do not teach or suggest the above-noted claimed subject matter or the advantages derived therefrom.

Kouyama discloses, in Fig. 8, that third and fourth impedance matching circuits 11A and 12A have different impedance values from each other. The impedance value of third impedance matching circuit 11A matches the impedance values of an antenna 1A and a radio section 20 when antenna 1A is not placed near or in contact with a human body. The impedance value of fourth impedance matching circuit 12A matches the impedance values of antenna 1A and radio section 20 when antenna 1A is placed near or in contact with a human body.

Hosonuma discloses a circuit that detects the level of a transmission reflected wave upon transmission and the level of a reception wave upon reception from a variable matching section.

Imagawa discloses deciding in advance the circuit condition of an antenna matching circuit 3 based on the distance between an antenna 1 and a measured object, with a control unit 5 storing the result of the decision.

The Office Action states that Imagawa discloses a control means 5 that tunes an antenna matching circuit 3 based on the distance between an antenna and a human body, and, as a result, an impedance mismatch is reduced so that the reflected signal detected by a first detection section decreases or the value detected by a second detection section increases (see Office Action page 5, lines 14-18).

However, the Applicants note that Imagawa discloses the above feature with respect to only a single antenna element.

Moreover, even if Imagawa's teachings were extended to simultaneously performing adaptive impedance matching for the entire set of antenna elements, this would not be similar to the Applicants' claimed feature of adaptively impedance matching a first antenna element and controlling other antenna elements using stored information corresponding to that used to adaptively impedance match the first antenna element.

Thus, it is submitted that the applied references, considered alone or together, do not teach or suggest the combination of features defined by claim 11.

Accordingly, the Applicants submit that Kouyama, Hosonuma, and Imagawa, considered individually or in combination, do not render obvious the subject matter defined by new claim 11.

Therefore, allowance of claim 11 and all claims dependent therefrom is warranted.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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JEL/DWW/att

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